

A New System of Classifying Occupations by Education and Training

A new classification structure provides an in-depth look at occupations and needed training.

Job seekers, students, and anyone interested in working want to know what educational and training requirements are needed to get started in an occupation. Do I need a degree, work experience in a related occupation, on-the-job training, or a combination of the three to jump into the world of work? Well, it depends on the occupation you are interested in. The U.S. Bureau of Labor Statistics (BLS) has developed a new classification system that addresses the question of “delineating the most common way persons prepare for an occupation.”

In the past, the BLS has assigned training codes defining how workers prepared by determining the typical way one enters an occupation. This system, which we used at the Department of Workforce Services, specified 11 training levels as the typical method of job entry. This hierarchy was a continuum starting with academic credentials (degrees) and ending with basic short-term on-the-job training. Here is the list of the 11 education/training levels:

- First professional degree
- Doctoral degree
- Master's degree
- Bachelor's or higher degree, plus work experience
- Bachelor's degree
- Associate degree
- Postsecondary vocational awards
- Work experience in a related occupation
- Long-term on-the-job training (including skilled and apprenticed trades) training in OJT setting and/or in formal classroom setting for one year or more
- Moderate-term on-the-job training—from one month up to one year
- Short-term on-the-job training—short demonstration and observation of less than one month.

This system was used to assign training levels in the Utah Job Outlook for 2008-2018. It was

a one-dimensional classification structure that assigned one of the above training codes to the list of the some 750 occupations in the Utah Job Outlook. What the prior classification system didn't do was provide the job seeker with two other important dimensions for describing occupation other than the typical educational level needed for entry. These two included a category defining work experience in a related occupation, and the typical on-the-job training (including apprenticeship or internship) needed to attain competency in the occupation.

The new system addresses these added dimensions by providing three education/training categories instead of one. First, and similar to the original 11 assignments, is the typical education needed for performing a job. Second, is an indicator of the level of work experience needed in a related occupation, and third, the level of on-the-job training called for. Now job seekers can gain a better understanding of what is needed for success in a given occupation. Below is a table showing the new three-dimensional classification of level of training, work experience, and on-the-job training (see table 1).

By the Numbers—Some notes

In the Standard Occupational Classification (SOC) system, there are 750 job titles that are assigned 1) a typical level of education for entry, 2) work experience in a related occupation, and 3) the level of on-the-job training needed for competency in the occupation. Some occupations only call for the education and training (showing “none” for the work experience and on-the-job training criteria). Others have a mix of all three. For example, most manager job titles call for a bachelor's degree and work experience in a related occupation. Engineers need just the bachelor's degree. Cashiers need less than a high school diploma or work experience and the minimum of on-the-job training. Skilled construction trades like electricians and plumbers



need a high school diploma and completion of an apprenticeship to reach the journey level. Dancers and actors are assigned as needing a high school diploma but need a lot of on-the-job training. See the table for examples of training assignments for selected occupations (see table 2).

To measure the new classification system's effect, the new codes were applied to current Utah Job Outlook employment projections (2008-2018). The codes categorizing the "typical education level needed for entry" were attached to each of the 750 occupations. The results revealed that about 28 percent of jobs in 2008, or 403,000, called for training of at least some college or above. This training segment's slice of the jobs pie is projected to increase to about 510,000 by the year 2018.

What to Do

This new classification structure adds much more information to the training/education, experience, and on-the-job information now available to the population (students, workers, economic development, and the educational community). It provides a much needed in-depth examination at occupations and the preparation called for to enter the labor market.

An Aside


Not to muddy up the waters of training and work, but in addition to training assignments there was also a look at the educational attainment of persons in those 750 occupations in the economy. The American Community Survey from the Census Bureau gathers this data and it is very interesting because it shows the population's educational attainment. Sometimes the educational attainment of individuals and the education/training assignments of occupations don't match up. A quick example can be gleaned from the data for registered nurses. The educational assignment for RNs is an associate degree. From the educational attainment data 37 percent of RNs claim an associate degree as their level of educational attainment. Interesting to note though, is that 42 percent have a bachelor's degree and another 10 percent of the RNs have a master's degree. And that's food for thought for another article. 

Table 1: New Education and Training Assignments

Typical Education Needed for Entry	Work Experience in a Related Occupation	Typical On-the-Job Training Needed to Attain Competency
Doctoral or Professional Degree	Less than 5 years	Internship/Residency
Master's Degree	1-5 years	Apprenticeship
Bachelor's Degree	Less than 1 year	Long-Term OJT
Associate Degree	None	Moderate-Term OJT
Postsecondary Non Degree		Short-Term OJT
Some College, No Degree		None
High School Diploma or Equivalent		
Less Than High School		

Table 2: Examples of Education and Training Assignments for Detailed Occupations

2010 National Employment Matrix title and code		Typical education needed for entry	Work experience in a related occupation	Typical on-the-job training (OJT) needed to attain competency in the occupation
Administrative Services Managers	11-3011	HS diploma or equivalent	1-5 years	None
Computer Systems Analysts	15-1121	Bachelor's degree	None	None
Lawyers	23-1011	Doctoral or professional degree	None	None
Elementary School Teachers, Except Special Education	25-2021	Bachelor's degree	None	Internship/residency
Graphic Designers	27-1024	Bachelor's degree	None	None
Registered Nurses	29-1111	Associate's degree	None	None
Licensed Practical and Licensed Vocational Nurses	29-2061	Postsecondary non-degree award	None	None
Hairdressers, Hairstylists, and Cosmetologists	39-5012	Postsecondary non-degree award	None	None
Retail Salespersons	41-2031	Less than HS	None	Short-term OJT
Carpenters	47-2031	HS diploma or equivalent	None	Apprenticeship
Heavy and Tractor-Trailer Truck Drivers	53-3032	High school diploma or equivalent	1-5 years	Short-term OJT
Industrial Truck and Tractor Operators	53-7051	Less than high school	Less than 1 year	Short-term OJT

Source: Employment Projections Program, U.S. Department of Labor, U.S. Bureau of Labor Statistics

For information on the new system see:

- <http://www.bls.gov/opub/ooq/2011/fall/art02.pdf>



For a listing of all 750 occupations with training/educational assignments see:

- <http://1.usa.gov/yvMz4U>

